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ABSTRACT

The most recent census data from the United States and New Zealand show a dramatic increase in the number of female farmers and farm managers and support two explanations for this increase. First, the 1970s saw large numbers of women enter traditionally male occupations as many of the formal and informal barriers were removed. One consequence of this movement toward equality was an influx of women into agricultural occupations. A second reason for this increase can be linked to changes in the structure of agriculture. Full-time farming opportunities for men have been decreasing and part-time production is no longer the mode in many areas. To the extent that farm wives--especially those without off-farm jobs--assume responsibility for farm management, there will be an increase in the number of women who begin to perceive themselves as farmers. Each of these explanations leads to a different set of expectations regarding the characteristics of the new female farmers. The first explanation suggests that the increase would be concentrated among younger cohorts of women. The second explanation points to increases among all age cohorts, but concentrated in those cohorts where the number of male farmers is decreasing. (Author/NEC)

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A NOTE ON THE INCREASE OF FEMALE FARMERS IN THE UNITED STATES AND NEW ZEALAND*

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Abstract

Data from the most recent Censuses of Population in the U.S. and New Zealand show a dramatic increase in the number of female farmers and farm managers. This paper examines two possible explanations for this increase. First, the 1970's saw large numbers of women enter traditionally male occupations as many of the formal and informal barriers were removed. It is posited that one consequence of this movement toward equality has been an influx of women into agricultural occupations. A second reason for the increase can be linked to changes in the structure of agriculture. The number of full-time farming opportunities for men has been decreasing and part-time production is now the mode in many areas. To the extent that farm wives, especially those who do not hold an off-farm job, take over major responsibility for managing the farm we can expect to see an increase in the number of women who begin to perceive themselves as farmers. Each of these explanations leads to a different set of expectations regarding the characteristics of new female farmers. The first explanation suggests that the increase would be concentrated among younger cohorts of women. The second explanation points to increases among all age cohorts, but concentrated in those cohorts where the number of male farmers is decreasing. Data from the U.S. and N.Z. Census are used to evaluate both explanations and to identify the types of farming enterprises women are entering. Results show that both explanations receive support.

A Note on the Increase of Female Farmers
in the United States and New Zealand

Attempts by sociologists and others to explicate the work roles of women in production agriculture in modern societies have taken on the aura of detective stories. Starting with the premise that the contributions women make to farming are hidden (Fassinger and Schwarzweller, 1984), invisible (Sachs, 1983), neglected (Gasson, 1979) or underestimated (Reimer, 1986), the task of the sociological investigator has been to explore and uncover the nature and range of tasks women perform on the farm. Towards this end, the literature on women's participation in agriculture has focused on either the relationship between the work roles of farm wives and their involvement in farm and household decision making (Wilkening, 1981; and Wilkening and Bharadwaj, 1967, 1968) or the individual and structural correlates of women's farm task involvement (Coughenour and Swanson, 1983, Lyson, 1985).

While debate continues over exactly what constitutes "farm work" (cf. Reimer, 1986; Sachs, 1983, Fassinger and Schwarzweller, 1984), virtually all previous studies have arrived at the same conclusion, namely that farm women are active participants in the day-to-day running of most farms. Thus, for example, a recent National Opinion Research Center (NORC) study (Jones and Rosenfeld, 1981) found that, on average, women in the United States were involved in over half of the farm tasks they referenced including various types of field work, animal care, marketing, bookkeeping and supervision of labor. Additionally, about half of the women shared final decision making with their husbands about such matters as acquiring more land and purchasing farm equipment. (Jones and Rosenfeld, 1981:ii-iii).

Reimer (1986) has attempted to quantify the amount of time women spend working on farm related tasks. Using data from a sample of Canadian farm families, he notes that "Women spend about 80 minutes per day on activities that fall within a narrow defintion of farm work. Men spend 294 minutes per day on the same type of work." (Reimer, 1986:149) However, when the defintion of farm work is expanded to include tasks such as running errands, gardening and conserving food, women spend 328 minutes per day on farm work compared with 360 minutes per day for men.

Most of what is known about the work roles of farm women in North America, Western Europe and Australia/New Zealand has come from small scale surveys or case studies (Fassinger and Schwarzweller, 1982; Craig, 1979; Sachs, 1981; Reimer, 1986; Symes and Marsden, 1983; Gasson, 1979; Kohl, 1977). Only one study has utilized a nationally representative sample of farm women (Jones and Rosenfeld, 1981; Rosenfeld, 1985). And virtually all previous work has been cross-sectional and not longitudinal in design (Wilkening, 1981 is a notable exception). Further, only a very few studies yield cross-cultural insights (cf. Wilkening and Lupri, 1965; Gasson, 1984). Given these data limitations, it is not surprising that most research in this area is self-described as exploratory (Fassinger and Schwarzweller, 1982).

If we assume that women's involvement in production agriculture in modern western societies is extensive, it is a bit surprising that so few women identify themselves as farmers when asked to list their primary occupation on census, income tax or other government forms. For instance, only about 72,000 American women reported to the Census Bureau that they were farmers or farm managers in 1970 and only eight percent of the farm women in the U.S. surveyed in 1979 by NORC identified themselves as either farmers, ranchers or farm wives on their income tax forms. The NORC survey also indicated, however, that over half of the farm women considered themselves to be one of the main operators on

the farm (Jones and Rosenfeld, 1981:52-54).

Similarly, in New Zealand, relatively few women describe themselves as farmers. According to the 1976 Census of Population there were six male farmers for every female farmer. And like the U.S., few New Zealand women list "farmer" as their primary occupation in other "official" sources (New Zealand Official Yearbook, 1984).

There are at least three reasons why women may fail to list farming as their major occupation. First, and perhaps most obviously, many farm women hold off-farm jobs which serve as the locus of their occupational identification. We know, for example, that in the U.S. 36.2 percent of rural farm women hold some type of off-farm job (U.S. Bureau of Census, 1983: Table 103). Second, although most farm women are active participants in the family enterprise, they may not identify themselves as the "primary" producer. For instance only 6.9 percent of rural farm women who do not hold and off-farm job, listed "farmer" or "farm manager" on their 1980 census form (U.S. Bureau of Census, 1983: Table 104). Furthermore, in the U.S. Census of Agriculture only the sex of the principle operator (or person in charge) is reported. Thus, even if a farm wife wished to classify herself as a farmer, the Census of Agriculture makes no provision for her to do so. And third, since farming has traditionally been perceived as a "male" occupation, most women may never seriously entertain the possibility of classifying themselves as farmers.

The situtation may be changing, however. Between 1970 and 1980 the number of women reporting farmer or farm manager as their primary occupation increased by 78 percent in the U.S. During this same period, male farmers and farm managers decreased by nearly 14 percent. In New Zealand, the number of female farmers increased by over 40 percent between 1976 and 1981, while the number of male farmers remained virtually unchanged.

There are at least two plausible explanations for the increase in the

number of women who list "farmer" as their primary occupation in these two countries. First, the 1970's saw large numbers of women enter traditionally male occupations. Equal Employment Opportunity legislation and affirmative action policies in both countries led to an opening-up and expansion of job opportunities for women. Over the past 15 years, many of the formal and informal barriers and restrictions that once prevented both admittance and/or advancement in numerous male dominated occupations have been eased. One consequence of this movement toward social and economic equality has been an influx of women into agricultural occupations in general and farming in particular (Lyson, 1979, 1981).

A second reason why the number and percentage of female farmers has increased in recent years can be linked to the changing nature of agricultural production. As modern agricultural systems move toward a bimodal distribution of farms (larger-than-family units, on the one hand and small scale/limited resource/part-time units, on the other hand) the number of full-time farming opportunities (for men) decreases. At the same time, major responsibility for managing the family enterprise may fall to the farm wife, especially if she does not hold an off-farm job (Jones and Rosenfeld, 1979; Gasson, 1979). To the extent that these women come to perceive themselves as the primary producers on the family farm, we can expect to see an increase in the number who list "farmer" when asked about their occupation.

Each of these explanations leads to a somewhat different set of expectations regarding the characteristics of women who have recently begun listing "farmer" as their primary occupation. If the opening-up of traditionally male occupations like farming to women was the catalyst for the increase, we would expect that most of the net gain would be concentrated among younger cohorts of women -- those just entering the labor force. On the other hand, the second explanation rests on the assumption that the shift from

full-time to part-time production among farm men results in farm wives, especially those with no off-farm job, assuming greater responsibility in running the farm. It follows that to fill the void left by their husband, many of these women might begin listing "farmer" as their primary occupation. From this perspective, one would expect that the increase in the number of female farmers would not be confined solely to young women. Rather, increases should be observable among all age cohorts and especially among those cohorts in which the number of male farmers is decreasing.

Of course, the increase in the number of female farmers could be a result of a combination of these two explanations. In which case, we would expect to find the net gain of women farmers distributed across various age groups, but more concentrated among younger women.

This paper is designed to evaluate these two explanations and to broaden what we know about female farmers by examining the types of farming enterprises women are entering. Toward this end, data from the most recent U.S. and New Zealand censuses of population will be used. In the U.S. data are from the 1970 and 1980 Census of Population while the New Zealand data come from their 1976 and 1981 Census of Population.

These two countries provide an interesting case for comparison. Both are characterized by an advanced level of economic development. Each has a modern and diversified agricultural sector. And female labor force participation in general, and involvement in agricultural and farming occupations in particular, has increased greatly in both countries. Overall, the economies of NZ and the U.S. could safely be described as more alike than different.

There are some important differences between the two societies that should be noted, however. Agricultural trade, for example, is the lifeblood of the NZ economy. Traditional export commodities include dairy products, meat, wool, wood pulp and horticultural crops. The relative importance of agricultural

products as the main constituents of New Zealand's export trade means that agricultural employment is over three times greater in NZ than in the U.S. Furthermore, the agricultural industry is growing at a rate that is four and one half times greater than in the U.S. Finally, notwithstanding labor displacing technological changes in farming in both countires, the number of production agricultural workers in New Zealand increased by 12.9 percent between 1976 and 1981. On the other hand, the U.S. registered a nine percent decrease in farmers, farm managers and farm workers between 1970 and 1980.

RESULTS

Looking first at the United States, Table 1 shows that the number of female farmers increased across all age groups between 1970 and 1980. The largest increase was evident among the 25-34 year old age group, although substantial gains also took place among the 35-44 and 45-54 year old age groups. Overall, the number of male farm operators and managers decreased by 118,982 between 1970 and 1980. The loss of male farmers was due entirely to the exiting of older men. The number of young male farmers (those under 35 years old) increased by 124,300.

Similar results obtain in New Zealand. The largest increase in the number of female farmers between 1976 and 1981 was among the relatively young 30-34 age group. However, all other cohorts also registered increases. Overall, the number of male farmers and managers in New Zealand increased slightly between 1976 and 1981. But all of this increase was due to the influx of men under 45 years old into farming. Like the U.S., there was a net decrease among male farmers in the older age cohorts.

Taken together, the results in Table 1 lend support to both explanations for the increase of female farmers. The increase in the number of women farmers was largest among the younger cohorts of women suggesting that non-traditional careers lines such as agriculture became more accessible to

them during the 1970's. At the same time, older cohorts of women also registered increases. The increase in the number of female farmers over 35 years old helped to ameliorate the loss of male farmers in the same age cohorts. This latter finding supports the notion that at least some women may be taking over the day-to-day running of the family farm and assuming the occupational identity of farmers when their husbands move to off-farm jobs.

Having identified the farm entry patterns of different age cohorts of women in the U.S. and New Zealand, we can turn to the question of how these women fit into the existing structure of agriculture. Data from the New Zealand Census of Population is especially helpful here. Unlike the U.S. Census of Population which has historically classified farmers and farm managers into a very narrow range of occupational titles,[1] the NZ census enumerates 31 different types of farmers (e.g., dairy farmers, sheep farmers, orchardists, etc.). Consequently, one is able to chart with some degree of precision the movement of women into and out of different production related occupational roles within the agricultural system.

Table 2 presents data for the four most populated farm occupations for men and women. Together, these four titles account for over 70 percent of all farmers in the country. As might be expected, sheep and dairy farmers account for the largest number of farmers for both men and women. Interestingly, however, although the number of male sheep farmers registered a modest increase between 1976 and 1981, the number of female sheep farmers more than doubled. This influx of women was so great relative to increases in other areas that sheep farmers accounted for over a third of all female farmers in 1981, up from 16.6 percent of all farmers in 1976. During the same period, female dairy farmers as a percentage of all female farmers dropped from 52.3 percent to 37.1 percent. Looked at a bit differently, over four of every ten New Zealand women who entered farming between 1976 and 1981 were sheep farmers while less than

two in ten women entered dairy farming.

Why was there such a large increase of female sheep farmers relative to other types of farming? Part of the answer may be found in the growth of sheep/wool exports in the late 1970's and early 1980's. In 1979 New Zealand exported 412.5 tonnes of sheep meat, by 1981 exports had risen to 523.7 tonnes. Likewise, wool exports grew by 17.3 percent between 1977 and 1981 (New Zealand Official Yearbook, 1984). No other crop or animal enterprise experienced this degree of growth. Consequently, it seems reasonable to assume that at least some of the increase in the number of women farmers between 1976 and 1981 was due to a growing worldwide demand for New Zealand wool and sheepmeat. Further, there is at least indirect evidence that many of these new female sheep farmers were not merely supplementing their husband's labor on existing sheep farms since the number of flocks rose from 36,118 in 1978 to 39,641 in 1981. At the same time, the average flock size remained virtually unchanged.

Discusssion

Taken together, the results presented in Tables 1 and 2 suggest that both explanations for the increase in the number of female farmers in recent years are valid. On the one hand, the increase was concentrated among younger women. These women no doubt benefited from the general movement toward social and economic equality in the workplace and the easing of restrictions that had made it difficult to enter male dominated occupations. These changes were brought about in part by various equal employment opportunity and affirmative action programs in both New Zealand and the U.S. As the normative climate changed in both countries, farming became a more "acceptible" career option for women and it appears that large numbers of women availed themselves of this opportunity.

On the other hand, older cohorts of women also began listing farmer and farm manager as their occupations on census forms. Almost 40 percent of the increase of female farmers in the U.S. and 23 percent of the increase in New

Zealand was among women over 45 years old. At the same time, the number of male farmers over 45 years old was decreasing. The U.S. lost almost 170,000 full-time male farmers between 1970 and 1980, while New Zealand lost almost 2,700 between 1976 and 1981. This set of findings is consistent with the notion that many full-time male farmers have shifted to part-time production in recent years and that the major responsibility for the day-to-day running of the farm has fallen to the farm wife. It appears that at least some of these women have begun to see themselves as "farmers" and have begun reporting this fact to the census.

Unfortunately, the results from this study do not present an unambiguous picture of farm entry among women. Census data, for example, cannot tell us the extent to which the increase of female farmers represents the creation of "new" opportunities for women to farm or merely reflects the fact that women are beginning to "offically" acknowledge the work they have always been doing on the farm. We do know that farm numbers increased in New Zealand between 1976 and 1981, due in part to a growing demand for sheep products. This obviously created "new" farming opportunities for men and women. And the results in Tables 2 indicate that women availed themselves of these opportunities. At the same time, it appears that at least some New Zealand farm women, especially those over 45 years old, have simply begun to characterize themselves as farmers.

In the U.S., farm numbers dropped between 1970 and 1980, despite a net increase in the number of female farmers. Given the overall downward spiral in the number of farms in the U.S., it seems unlikely that the increase in the number of female farmers was the result of any net increase in new opportunities solely for women. More likely, the transformations reshaping the structure of modern agricultural systems, coupled with the gradual breakdown of sex-linked occupational identification have made it possible for large numbers

of women to come forth and be counted for what they are: farmers.

Whether the trends evident in the 1970's in both the U.S. and New Zealand will continue through the 1980's and beyond remains an open question at this time. There is little evidence to suggest that the changes that have transformed the structure of modern agricultural systems will ease in the near future. Farms will continue to get larger in size and fewer in number and large scale producers will produce a still greater share of food and fiber. Many more family sized units will likely slip from full-time to part-time production as farm operators seek off-farm employment to supplement the family's farm earnings.

Concurrently, we can expect to see women making further inroads into traditionally male occupational domains. The rigid occupational sex segregation that characterized the agricultural industry in the past is easing. Women who reported to the Census in 1980 and 1981 that they were farmers may represent the vanguard of an increasingly significant and important movement into traditionally male areas such as farming.

While there is little reason to expect farm numbers to increase in any western industrialized country in the world, the number of female farmers may, in fact, continue to grow for two reasons. First, young women are entering farming alone or in partnership with their husbands. And second, women who have always made significant contributions to the day-to-day running of the family operation are becoming "visible" in official statistics as they come to see themselves as "farmers."

Footnotes

1. In 1960 and 1970 the most detailed classification of U.S. farmers and farm managers included only two occupational codes: 801-Farm Owners and Tenants; and 802-Farm Managers. The classification system was changed and was broadened in 1980 to include four occupational titles: 473-Farmers, Except Horticultural; 474-Horticultural Specialty Farmers; 475-Managers, Farms, Except Horticultural; and 476-Managers Horticultural Specialty Farms.

Table 1A. Farmers and Farm Managers in the U.S. by Age and Sex: 1970-1980

Age	Women		Men		Women as % of All Farmers	
	1980 (N)	Δ 1970-1980 (N)	1980 (N)	Δ 1970-1980 (N)	1970 (%)	1980 (%)
16-24	8,405	3,592	95,080	46,146	8.9	8.1
25-34	23,260	15,632	218,001	78,154	5.2	9.6
35-44	27,975	13,786	204,706	-75,514	4.8	12.0
45-54	30,273	11,026	241,902	-78,343	5.7	11.1
55-64	25,825	7,788	260,668	-65,854	5.2	9.0
65+	11,665	3,071	150,911	-23,571	4.7	7.2
Total	127,402	54,894	1,171,268	-118,982	5.3	9.8

Source: 1980 Census of Population, Volume 1, Characteristics of the Population, U.S. Summary, Ch. D, Table 280.

1970 Census of Population, Volume 1, Characteristics of the Population, Part 1, U.S. Summary-Section 2, Table 226.

Table 1B. Farmers and Farm Managers in New Zealand by Age and Sex: 1976-1981.

Age	Women		Men		Women as % of All Farmers	
	1981 (N)	Δ 1976-1981 (N)	1981 (N)	Δ 1976-1981 (N)	1976 (%)	1981 (%)
15-19	162	108	1,071	453	8.0	13.1
20-24	885	339	3,894	648	14.3	22.7
25-29	1,884	439	7,107	-54	16.8	20.9
30-34	2,904	1,074	9,111	1,284	19.0	24.2
35-39	2,670	753	8,274	546	19.0	24.4
40-44	2,277	720	7,479	495	18.2	23.3
45-49	1,686	303	6,486	-1,305	15.1	20.6
50-54	1,371	339	6,741	-411	12.6	16.9
55-59	888	252	5,685	-255	9.7	13.5
60-64	423	63	3,744	-555	7.7	10.1
65+	414	72	3,723	-153	8.1	10.0
Total	15,552	4,464	63,327	678		

Source: Special tabulations from the New Zealand Census of Population, 1976 and 1981.

Table 2. Distribution of Men and Women by Selected Farmer Titles in New Zealand: 1976-1981.

Title	Women			Men		
	1976 (%)	1981 (%)	Δ 1976-1981 (%)	1976 (%)	1981 (%)	Δ 1976-1981 (%)
Sheep Farmer	16.6	23.9	101.4	33.4	35.1	6.2
Dairy Farmer	52.5	42.0	12.2	33.4	29.1	-8.1
General Farmer	3.8	6.2	130.3	7.4	9.7	29.6
Orchardist	3.5	6.0	136.6	2.5	4.0	62.8
All Other	23.6	21.9	30.6	24.8	22.1	-9.1
Total	100.0	100.0	40.2	100.0	100.0	1.1

Source: Special tabulations from the New Zealand Census of Population, 1976 and 1981.

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